

# Multipollutant Stakeholder Group Meeting Agenda

Via WebEx  
April 6, 2020

## Welcome!

Please  
Stand-by,  
our meeting  
will begin  
shortly.

Facilitator: Michelle King, APCD Director of Program Planning	Lead	Start	Stop	Duration (mins)
<b>Welcome &amp; Introductions</b>	Steve Sullivan, MPSG Co-Chair	2:00	2:10	10
<b>Reconvening Process and Logistics</b> <ul style="list-style-type: none"><li>• Process to date review</li><li>• Overview of final meeting agendas</li></ul>	Michelle King, APCD Director of Program Planning	2:10	2:20	10
<b>Point Source Committee Overview &amp; Discussion</b> <ul style="list-style-type: none"><li>• Committee review</li><li>• Committee recommendations</li></ul>	Byron Gary, Regulatory Coordinator	2:20	2:50	30
<b>Area Source Committee Overview &amp; Discussion</b> <ul style="list-style-type: none"><li>• Committee review</li><li>• Committee recommendations</li></ul>	Jayne Csonka, Small Business Compliance Assistance Coordinator	2:50	3:20	30
<b>Mobile Source Committee Overview &amp; Discussion</b> <ul style="list-style-type: none"><li>• Committee review</li><li>• Committee recommendations</li></ul>	Bradley Coomes, Environmental Coordinator	3:20	3:50	30
<b>Introduce Recommendation Feedback Tool</b>	Michelle King	3:50	3:55	05
<b>Meeting Review and Follow-up Items</b>	Steve Sullivan and Dr. Geoffrey Cobourn, MPSG Co-chairs	3:55	4:00	05

# Multipollutant Stakeholder Group Meeting

Air Pollution Control District  
April 6, 2020



# Welcome & Introductions

- MPSG Co-chairs and Participants

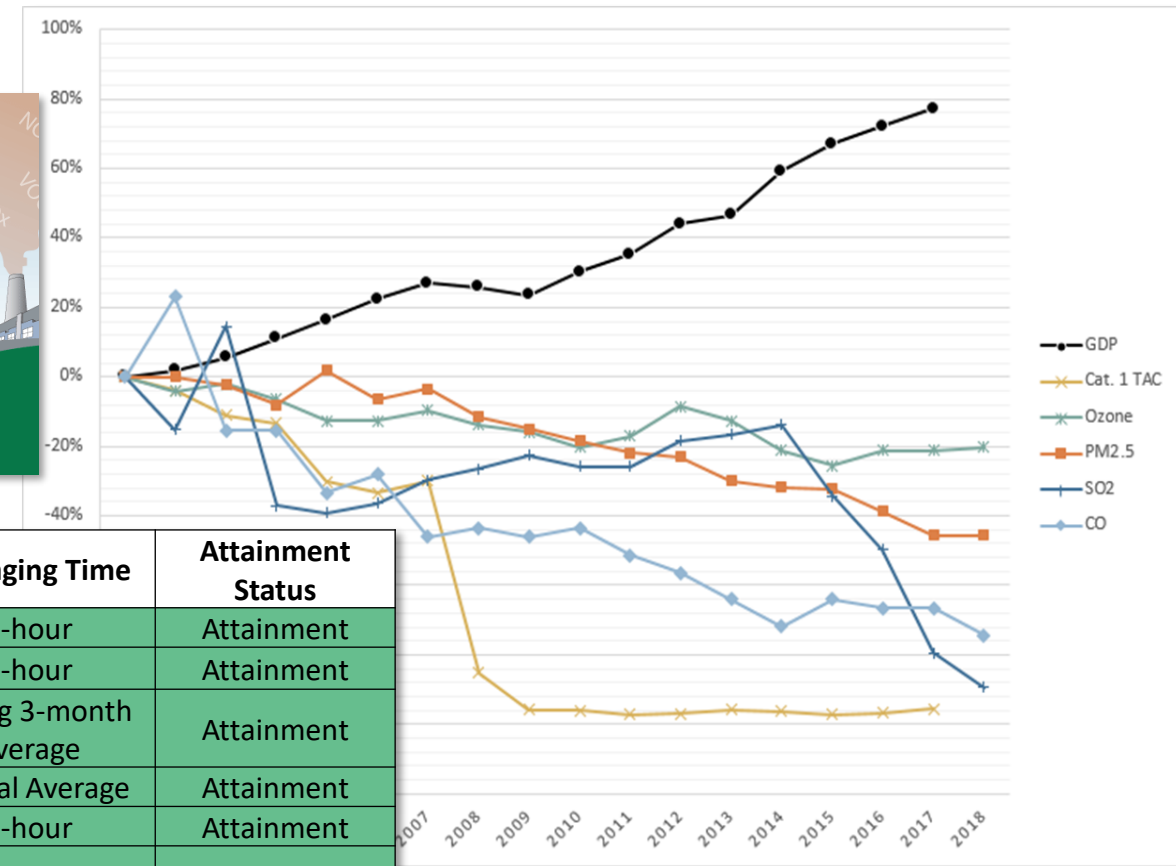
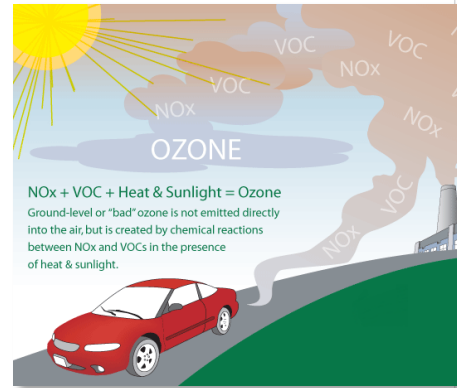
# Reconvening Process and Logistics

- Michelle King, APCD,  
Director of Program Planning

# Process to date review

# Convening the Multipollutant Stakeholder Group (MPSG)

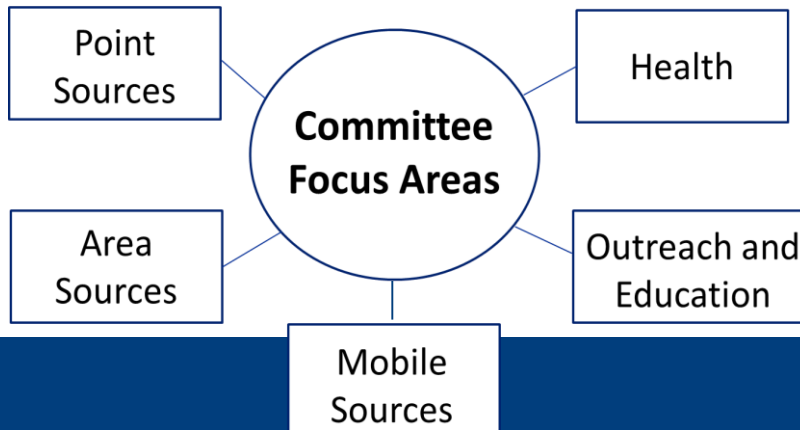
- November 6, 2019
  - Introduction to APCD
  - Overview of MPSG Process and Goals
  - Louisville's Air Quality
    - Criteria Pollutants
      - Ozone
    - Air Toxics



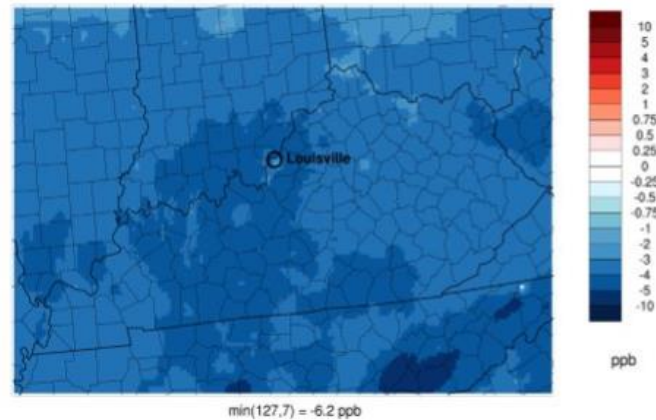
Pollutant	Standard	Averaging Time	Attainment Status
Carbon Monoxide	9 ppm	8-hour	Attainment
	35 ppm	1-hour	Attainment
Lead	0.15 $\mu\text{g}/\text{m}^3$	Rolling 3-month Average	Attainment
Nitrogen Dioxide	53 ppb	Annual Average	Attainment
	100 ppb	1-hour	Attainment
Particulate Matter (PM10)	150 $\mu\text{g}/\text{m}^3$	24-hour	Attainment
Particulate Matter (PM2.5)	12.0 $\mu\text{g}/\text{m}^3$	Annual Average	Attainment
	35 $\mu\text{g}/\text{m}^3$	24-hour	Attainment
Ozone	0.070 ppm	8-hour	Nonattainment
Sulfur Dioxide	75 ppb	1-hour	Partial County Nonattainment

# MPSG Meetings

- November 20, 2019
  - Louisville Air Quality – A Deeper Dive
    - Ozone Formation Study
      - **Bottom Line - Nitrogen Oxide reductions are really important most of the time. VOCs can be key on some days.**
    - Fine Particulates Trends and Sources
    - Air Toxics Trends and Sources
  - Committee Overview



NOx Sensitivity - 2016 Base Case  
Average MD8A Ozone Difference for Top 10 Highest Observed MD8A Days



NOx emissions reductions decrease Top10 MDA8 ozone by 3.8 ppb in Jefferson County and 6.2 ppb overall (in southeast)

VOC Sensitivity - 2016 Base Case  
Average MD8A Ozone Difference for Top 10 Highest Observed MD8A Days



VOC emissions reductions decrease Top10 MDA8 by 1.3 ppb

Reductions are most effective in Jefferson County



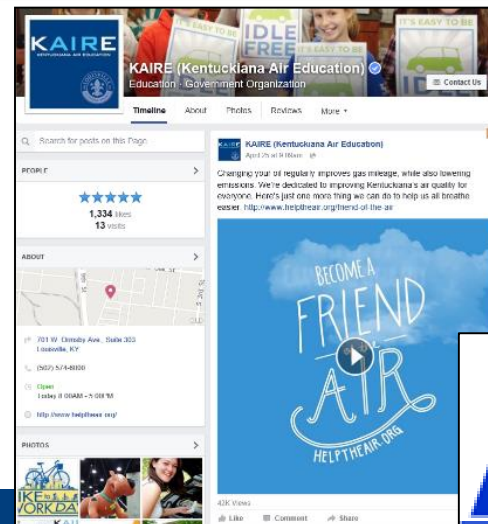
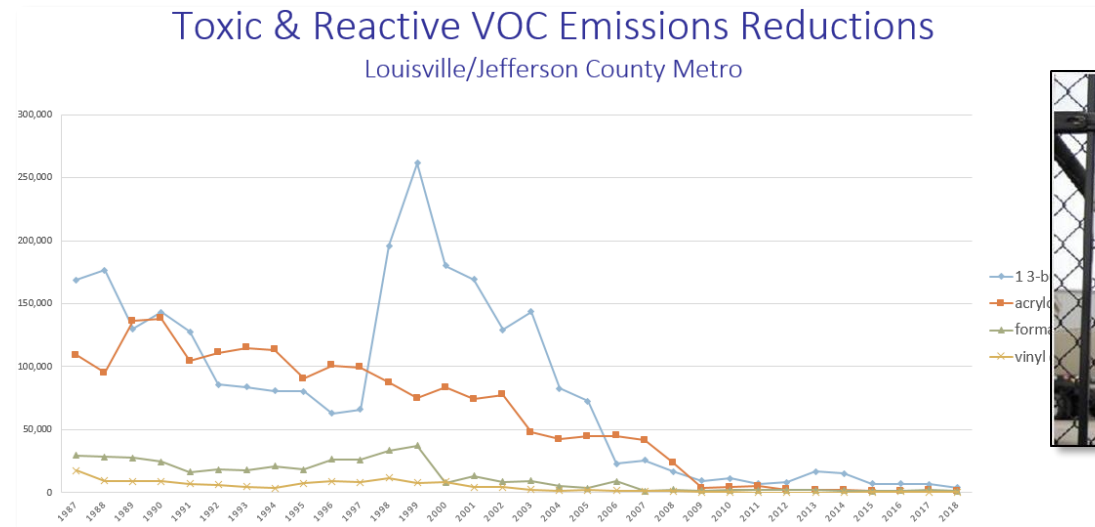
# MPSG Meetings

## ■ December 11, 2019

- Committee Kick-Off
- Emission Reduction Examples

- Point
- Area
- Mobile

- Health Recommendation Examples
- Outreach and Education Recommendation Examples





# Committee Process

- Committee Selection and Recruitment
  - Online Sign-up Form
  - 5 Committees with more than 60 participants



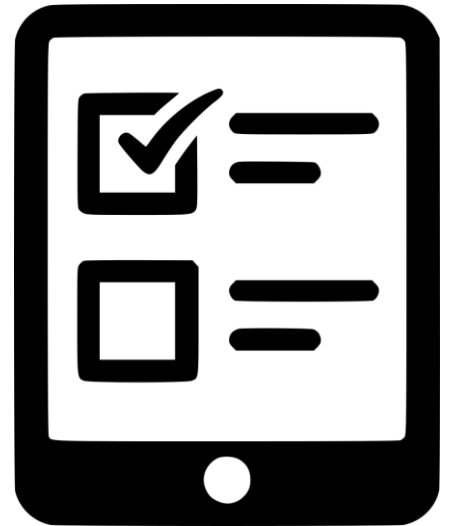
- Committee Meetings
  - 37 Committee meetings (6 Point, 6 Area, 7 Mobile, 6 O&E, 6 Health)
  - December 18<sup>th</sup> through March 13<sup>th</sup>
  - More than 90 Recommendations developed



# Overview of final meeting agendas

# MPSG Reconvening

- MPSG Reconvening
  - April 6, 2020 – Committee Process and Recommendation Overview
    - Point Source Committee
    - Area Source Committee
    - Mobile Source Committee
  - Recommendation Feedback Form
  - April 13, 2020 – Committee Process and Recommendation Overview & MPSG Process Wrap-up
    - Outreach and Education Committee
    - Health Committee
    - MPSG Final Steps
  - Recommendation Feedback Form



# Point Source Committee Overview & Discussion

- Byron Gary, APCD,  
Regulatory Coordinator

# Committee Review

- Committee Process & Goals
- Point Source Overview
- Emissions Inventory Deep Dive
- Modeling Deep Dive
- Previous Recommendations

# Committee Process & Goals

# Point Committee Structure

## Nominate Chair?

### Proposed Committee Chair Duties

- Oversee and conduct all committee meetings, ensuring agenda items are addressed and all participants have opportunity to provide input
- Work closely with the APCD committee coordinator(s) to disseminate information and all other communications of importance to the full committee
- Direct committee conversations related to substantive matters and consensus-building (*e.g.* the development of recommendations)
- Review meeting agendas to ensure committee conversation and direction is reflected



Ultimately no Chairperson chosen

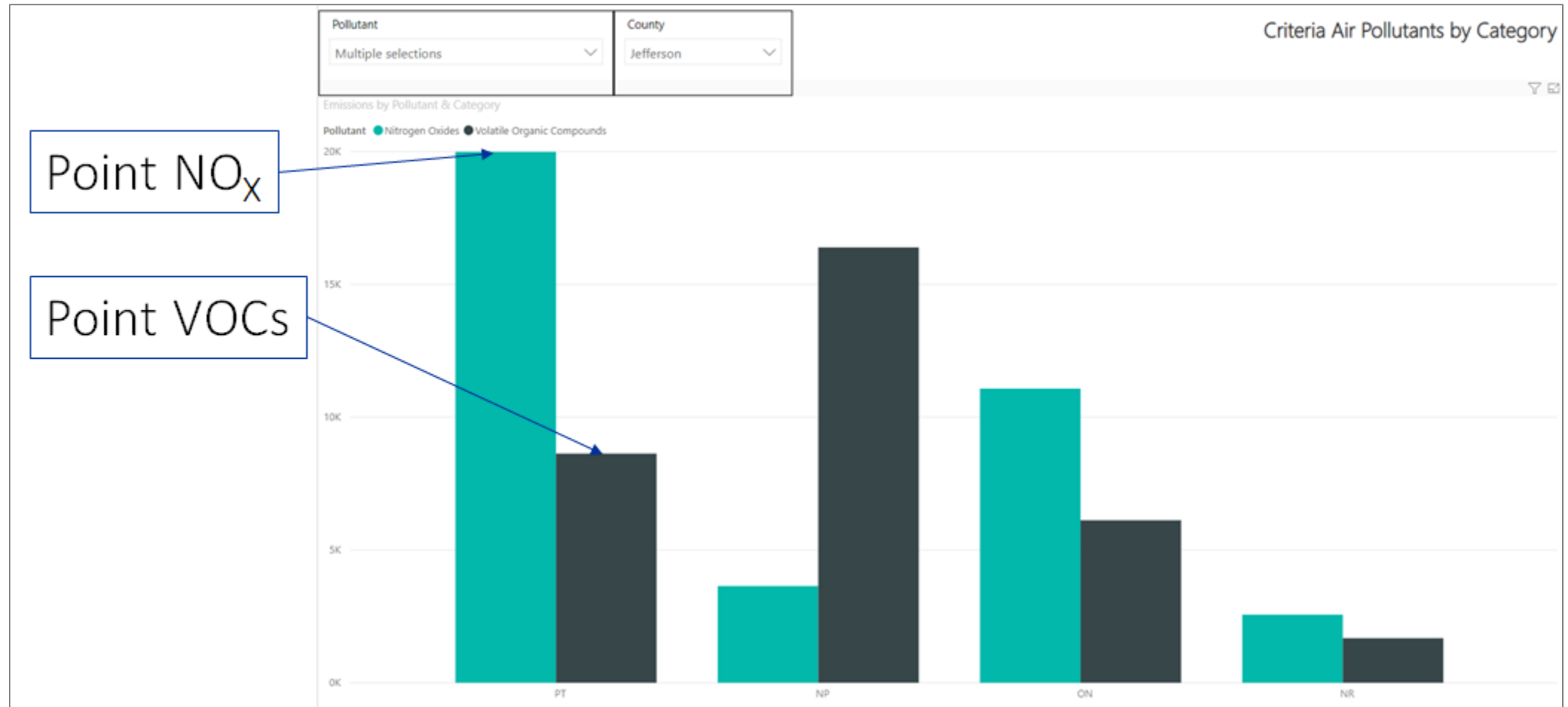


# Point Source Committee Goals

- Identify and assess sources and control measures currently in place or planned for ozone precursors at Point sources.
- Evaluate Ozone Formation Study modeling results to:
  - Identify additional possible voluntary control strategies for reaching attainment of the 8-hour Ozone NAAQS by 2021 deadline.
  - Evaluate possible additional control measures for informal RACT/RACM assessment.
- Evaluate the sufficiency of current regulations to meet the 2015 8-hour Ozone Nonattainment Area SIP Requirements and consider and recommend updates to these rules.
- Assess recommended strategies for co-benefits to fine particulate and air toxic emission reductions.

# Point Source Overview

# Emissions

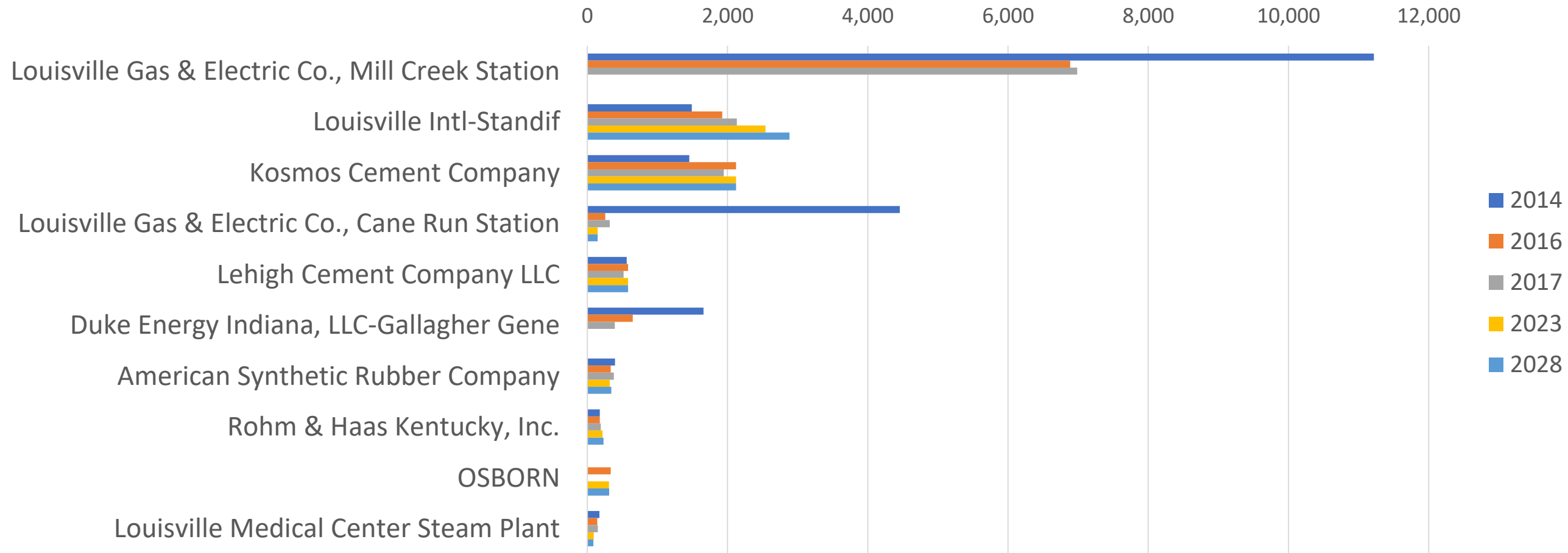


# Controls

- Good Neighbor Provision – CAA §110(a)(2)(D)(i)(I)
  - NO<sub>x</sub> Budget Trading Program (2003-2008)
  - Clean Air Interstate Rule (CAIR) (2009-2014)
  - Cross-State Air Pollution Rule (CSAPR) (2015-present)
- New Source Review (NSR) – CAA Title 1 Part C (PSD) & Part D (NNSR)
- New Source Performance Standards (NSPS) – CAA §111
- National Emissions Standards for Hazardous Air Pollutants/Maximum Available Control Technology Standards (NESHAP/MACT) -CAA §112
- Strategic Toxic Air Reduction Program (STAR) – APCD Regs 5.20-5.30

# Known & Planned Emissions Changes

Louisville MSA Top 10 NOx Emissions\*

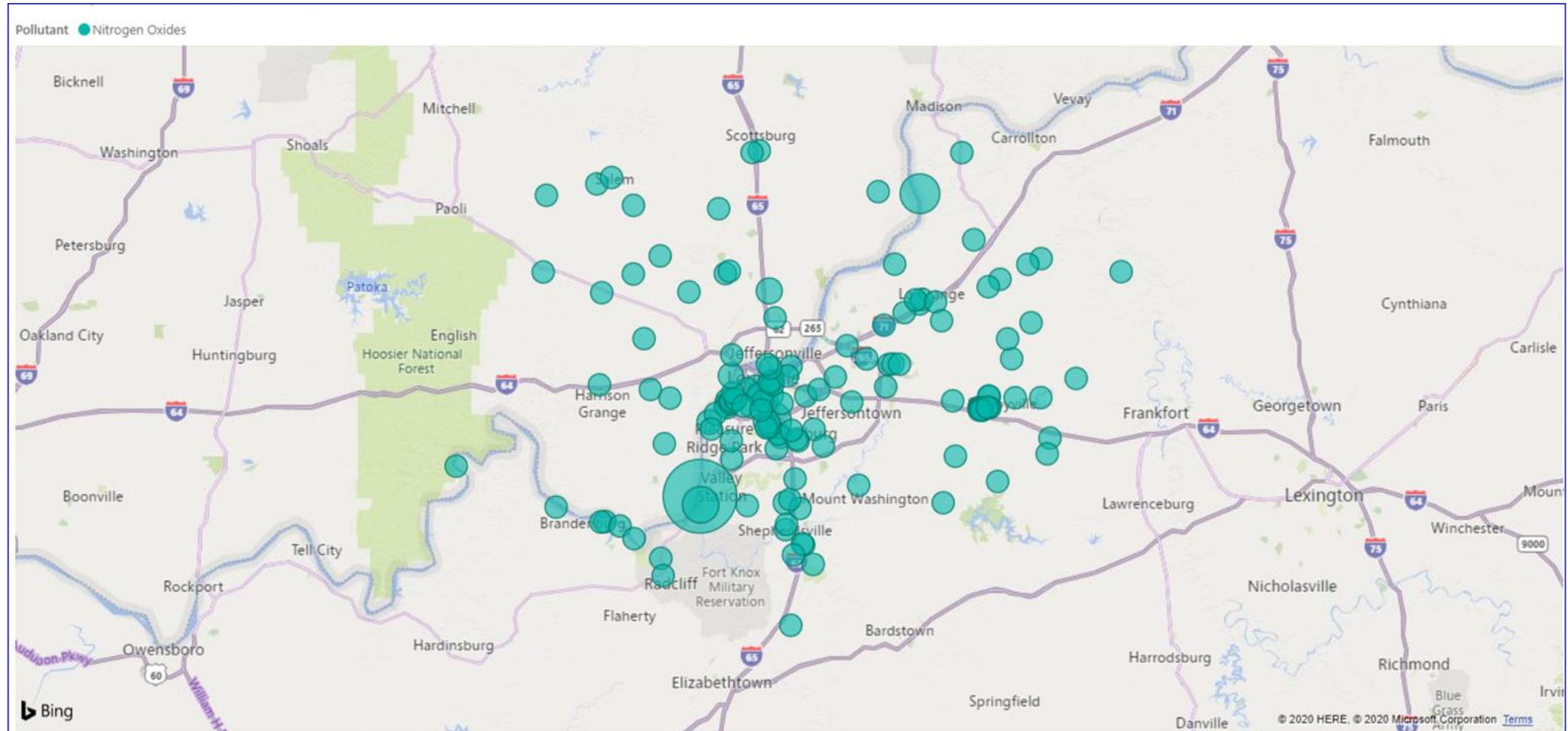


\* Top 10 by sum of emissions for all years.  
Many projected emissions do not match  
known or planned controls.

[National Emissions Inventory \(NEI\)](#)  
[EPA 2016v1 Modeling Platform](#)

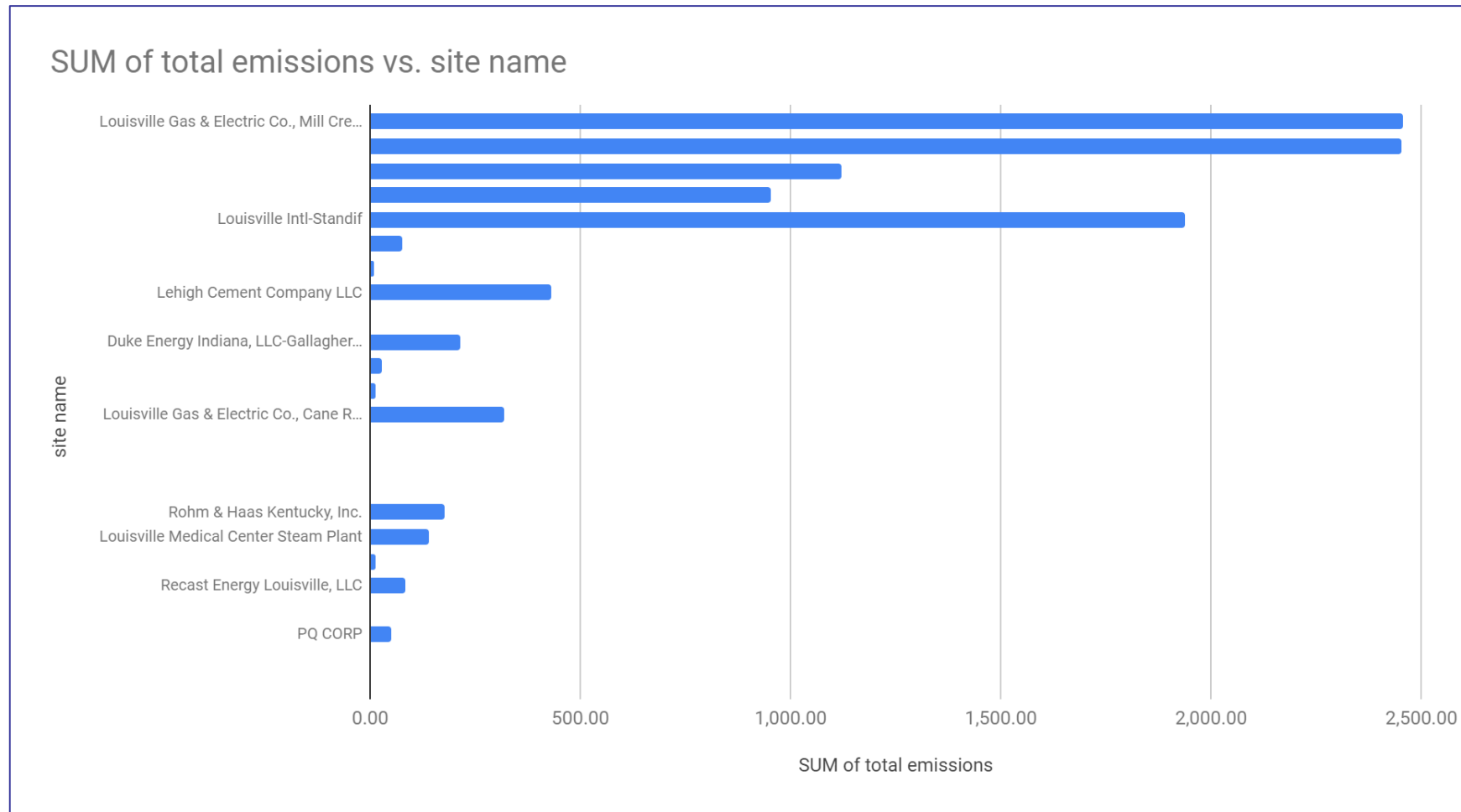
# Emissions Inventory Deep Dive

# Emissions Inventory Dashboard





# Inventories by Unit



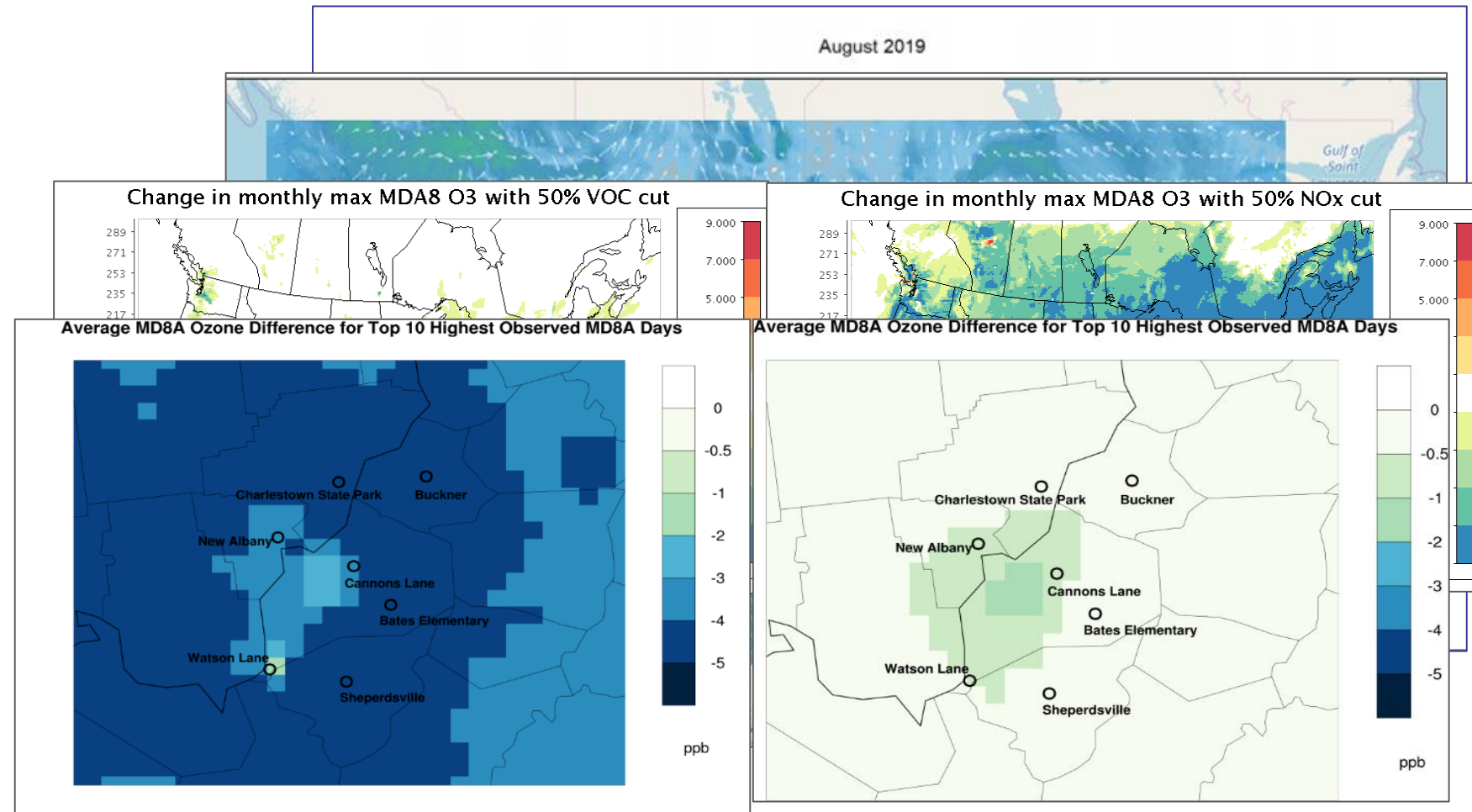
# Stakeholder-Sourced Spreadsheet

	A	B	C	D	E	F	G	H	I
1	Source Name	2014 NEI	2016v1	2017 NEI	2023 (v1)	2028 (v1)	Current Controls	Planned Controls/Shutdown	Date
2	Duke Energy Indiana LLC - Gibson Genera	14292.3	13190.025	11385	15537.37322	15537.37322			
3	INDIANA MICHIGAN POWER DBA AEP ROCKPO	19734.57859	12890.84522	11268.04484	1205.943192	1205.937644	SCR (Unit 1)	SCR (Unit 2)	June 1, 2020
4	Zimmer Power Station (1413090154)	11318	5464.2	8966.881001	10194.82235	10196.39242			
5	Tennessee Valley Authority (TVA) - Shawnee Fossil Plant	12330.97	11002.137	10078.945	4977.351109	5227.902603			
6	General James M. Gavin Power Plant (0627010056)	10035.31	7340.36	7830.77	8948.49299	8528.774534			
7	EASTMAN CHEMICAL COMPANY	9457.7522	8253.1543	6585.4675	7758.09527	8212.775432			
8	ALCOA Warrick Power Plant AGC Div of AI	10785.2246	7079.979	4148.12	7922.363661	7922.363661			
9	Indiana-Kentucky Electric Corporation -	9132.01	9355.5	5769.7964	5700.641621	5700.641618			
10	APPALACHIAN POWER COMPANY - JOHN E AMOS PLANT	4730.53	6287.52	6239.552	8654.285263	7539.185656			
11	Indianapolis Power and Light Petersburg	13048.149	10813.8575	8373.18914	0.4575	432.410667		shutdown (units 1 & 2)	2021/2023
12	Miami Fort Power Station (1431350093)	6404.4676	5053.063	5950.096	6788.58457	6788.58457			
13	KY Utilities Co - Ghent Station	10721.91491	8431.803905	7049.214531	3278.088421	0.499843036			
14	Ohio Valley Electric Corp., Kyger Creek Station (0627000003)	5587.3	7778	5658.8	5145.449835	4030.675847			
15	Louisville Gas & Electric Co., Mill Creek Station	11219.256	6886.581057	6986.164634	1.078144628	1.125441407			
16	Tennessee Valley Authority - Paradise Fossil Plant	9463.603339	7581.30596	3495.369134	0.301787677	0.300826213		shutdown	2020
17	Illinois Power Generating Co	4777.167475	3316.754935	4019.661697	4032.203962	4389.37341			
18	TVA GALLATIN FOSSIL PLANT	5106.166043	7082.093934	5253.42998	870.0022013	978.4523757			
19	APPALACHIAN POWER - MOUNTAINEER PLANT	3023.62	3942.4047	3290.6776	3898.265522	3897.993619			
20	Prairie State Generating Station	2808.7321	3548.02993	3768.375	3590.728849	3590.928889			
21	Duke Energy KY East Bend	4166.312517	3511.848405	2880.27284	2873.770621	2633.031974			
22	Electric Energy Inc	4019.427	1895.205	2467.47	3967.837999	3524.112855			
23	TVA CUMBERLAND FOSSIL PLANT	5556.218325	4780.031991	3380.017476	0.338523296	0.279428008			
24	DP&L, Killen Generating Station (0701000060)	7117.645	6060.83		2.53	2.53		shutdown	2018
25	Owensboro Municipal Utilities - Elmer Smith Station	7347.674394	3053.674004	2380.715823	0.006824546	0.006807623			
26	DP&L, J.M. Stuart Generating Station (0701000007)	7131.988	5468.864		2.864	2.864		shutdown	2018
27	Lehigh Cement Company LLC	2419.6545	2348.128088	2364.578724	2348.170765	2348.179263		ceasing production	2022
28	East KY Power Coop - Spurlock Station	3352.009	3398.726	2745.2218	1023.133475	1023.133475			
29	Big Rivers Electric Corp - Green Station	4499.06	3715.352	2967.644					
30	Louisville Intl Standif	1400.697773	1022.16171	2120.062211	2541.156725	2004.170160			

# Modeling Deep Dive

# Modeling

- Ozone Forecasting - Dr. Coburn
- Types of Modeling
- Previous Modeling
- Ozone Formation Study



## Previous Stakeholder Recommendations

## Previous Stakeholder Groups

- [Air Quality Task Force Report to Mayor Abramson and Air Pollution Control Board \(01/18/2006\)](#)
- [Strategic Toxic Air Reduction Regulation 5.30 Stakeholder Group Report and Plan of Action \(09/16/2007\)](#)
- [Fine Particle Air Quality Task Force Report and Plan of Action \(01/16/2008\)](#)

# Committee Recommendations

- 11 Recommendations
- Broadly ordered by timeline



## Recommendation 1

- The District should keep and help maintain the Stakeholder-sourced spreadsheet of known and planned reductions in the domain of the Ozone Formation Study.

## Recommendation 2

- The District should start a program to recognize companies for voluntary efforts to reduce ozone precursor and other emissions. Recognition should be given through certificates or badges for different levels or tiers of reductions, awarded before the Louisville Metro Air Pollution Control Board.

## Recommendation 3

- The District should encourage participation by sources in voluntary programs such as KY EXCEL, Kentucky Pollution Prevention Center, and the Louisville Metro Energy Project Assessment District (EPAD) program, including through the recognition program in recommendation 2.

## Recommendation 4

The District should encourage action by Point Sources on Air Quality Alert Days.

- a) The District should ensure that environmental contacts for permitted sources are directly notified by email of Air Quality Alert Days.
- b) The Committee also recommends sources have an Air Quality Alert Day Plan, which voluntarily commits to avoiding, deferring, or delaying certain actions such as startups, shutdowns, maintenance, and testing on Air Quality Alert Days whenever possible.
- c) The District should recognize companies which submit Air Quality Alert Day Plans, including through the recognition program in recommendation 2.

## Recommendation 5

- The District should develop “Best Practices” materials to be posted in point source workplaces to educate employees on how to minimize emissions and impacts. See Outreach & Education Recommendation \*\*.

## Recommendation 6

The District should consider additional ozone modelling efforts.

- a) The District should consider conducting additional photochemical modeling which evaluates sensitivity to Louisville-specific emissions reductions through additional brute-force runs.
- b) The District should also consider additional photochemical modeling which evaluates the relative contribution either of different sources or geographic areas through source-apportionment modeling.
- c) In any further modeling, the District should improve/refine the emissions inventory with the most accurate local data to the greatest extent possible. See Area Source Recommendation 1.

## Recommendation 7

- The District should evaluate ozone exceedances through analysis using tools available to it, such as looking at HYSPLIT back trajectories. Additional analysis could be made available through reports, such as the Georgia Annual Ozone Exceedance Reports.



## Recommendation 8

- The District should evaluate the Emissions Statements rule (Regulation 1.06) for compliance with EPA's SIP Requirements Rule, and update if necessary.

## Recommendation 9

- In rulemaking for Nonattainment New Source Review (NNSR), the District should compare Regulation 2.04 to minimum federal standards in 40 C.F.R. Part 51, and make explicit where the Regulation is currently more stringent and where it is deficient. The District should consider the full range of options, including conformity with the minimum federal standards, highlighting Clean Air Act (CAA) requirements including CAA §§110(l) & 193. The District should allow ample opportunity for Stakeholder and public input, including through Advanced Notice of Proposed Rulemaking (ANPR) which includes the detailed comparison to minimum federal standards, public meetings, and extended opportunities for comment.

## Recommendation 10

- The District should evaluate Reasonably Available Control Technology/Reasonably Available Control Measures (RACT/RACM) in advance of the marginal attainment deadline of August 2021, to understand reasonably available control technologies which could be considered in the event of reclassification.

## Recommendation 10 (cont'd)

- a) In evaluating RACT/RACM the District should compare actions in other jurisdictions, such as Pennsylvania's RACT III action, and consider setting presumptive RACT for NOX emissions from various sources through regulation considering such actions in other jurisdictions.
- b) The District should also evaluate whether the reactivities of various VOCs could be accounted for in determining RACT/RACM. Considerations should include how reactivity-based RACT/RACM would be accounted for in the State Implementation Plan (SIP), and in Nonattainment New Source Review (NNSR) offsetting. This process should include opportunity for input from Stakeholders and the Public.
- c) The District should consider adding regulations for CTGs for source sectors in the District covered by a CTG, but not already covered by District regulations, especially those adopted or updated by U.S. EPA since 2006 such as those for offset lithography printing and industrial solvent cleaning. In evaluating source sectors for regulation the District should consider any additional industry standards and improvement since the issuance of CTGs.

## Recommendation 11

- The District should evaluate the effect of EPA's January 25, 2018 guidance memorandum titled "Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act" (Major Maximum Achievable Control Technology (MACT) to Area, or MM2A) memorandum, and Proposed Rule, Reclassification of Major Sources as Area Sources Under Section 112 of the Clean Air Act, 84 Fed. Reg. 36,304 (July 26, 2019).

# Area Source Committee Overview & Discussion

- Jayme Csonka, APCD,  
Small Business Compliance  
Assistance Coordinator

# Committee Review

- What Are Area Sources?
- Committee Goals
- Meeting #1 – Review of Minor & Registered Sources & Sector, Known and Planned Programs
- Meeting # 2 – Industry Sector Deep Dive
- Meeting # 3 – Review of Area & Exempt Sources & Sectors, Engineer Q&A
- Meeting # 4 – Financing Mechanisms

# What are Area Sources?

Source Type	Permit Type	Threshold Limits
Exempt Source	<a href="#">None/Exempt Source</a>	<ul style="list-style-type: none"> <li>Uncontrolled PTE &lt; 1000 lbs of a HAP</li> <li>Uncontrolled PTE ≤ 5 tpy of a RAP and</li> <li>The source is not subject to 40 CFR 60, 61, or 63</li> <li>Operates only one of the affected facilities listed in Appendix A of <a href="#">Reg. 1.02</a></li> </ul>
Minor Source	<a href="#">Registration</a>	<ul style="list-style-type: none"> <li>Uncontrolled PTE &gt;1000 lbs of a HAP</li> <li>Uncontrolled PTE ≥5 tpy of a RAP</li> <li>May accept limits to meet PTE requirements</li> <li>Source is subject to 40 CFR 60, 61, or 63</li> </ul>
	<a href="#">Minor Source</a>	<ul style="list-style-type: none"> <li>Uncontrolled PTE &lt;10 tpy of a HAP</li> <li>Uncontrolled PTE &lt;25 tpy of combined HAPs</li> <li>Uncontrolled PTE &lt;100 tpy of a RAP</li> </ul>
	FEDOOPSE (STAR Exempt)	<ul style="list-style-type: none"> <li>Potentially a major source, but emissions limited to minor source thresholds</li> <li>Does not apply to source categories: <a href="#">gasoline dispensing</a>, <a href="#">parts washers with secondary reservoirs</a>, <a href="#">motor vehicle refinishing</a> (2 links), and dry cleaners</li> <li>PTE Limited to &lt;5 tpy of a HAP</li> <li>PTE Limited to &lt;12.5 tpy of combined HAPs</li> <li>PTE Limited to &lt;25 tpy of a RAP</li> </ul>
	<a href="#">FEDOOP</a>	<ul style="list-style-type: none"> <li>Potentially a major source, but emissions limited to below major source thresholds</li> </ul>



# What Are Area Sources?

- Non-point Sources
- Industrial Synthetic Minor (FEDDOOP), Minor, Registered, and Exempt Sources
- Commercial Sources
- Residential Sources
- Biogenic Sources

# Criteria Air Pollutants by Category

Pollutant

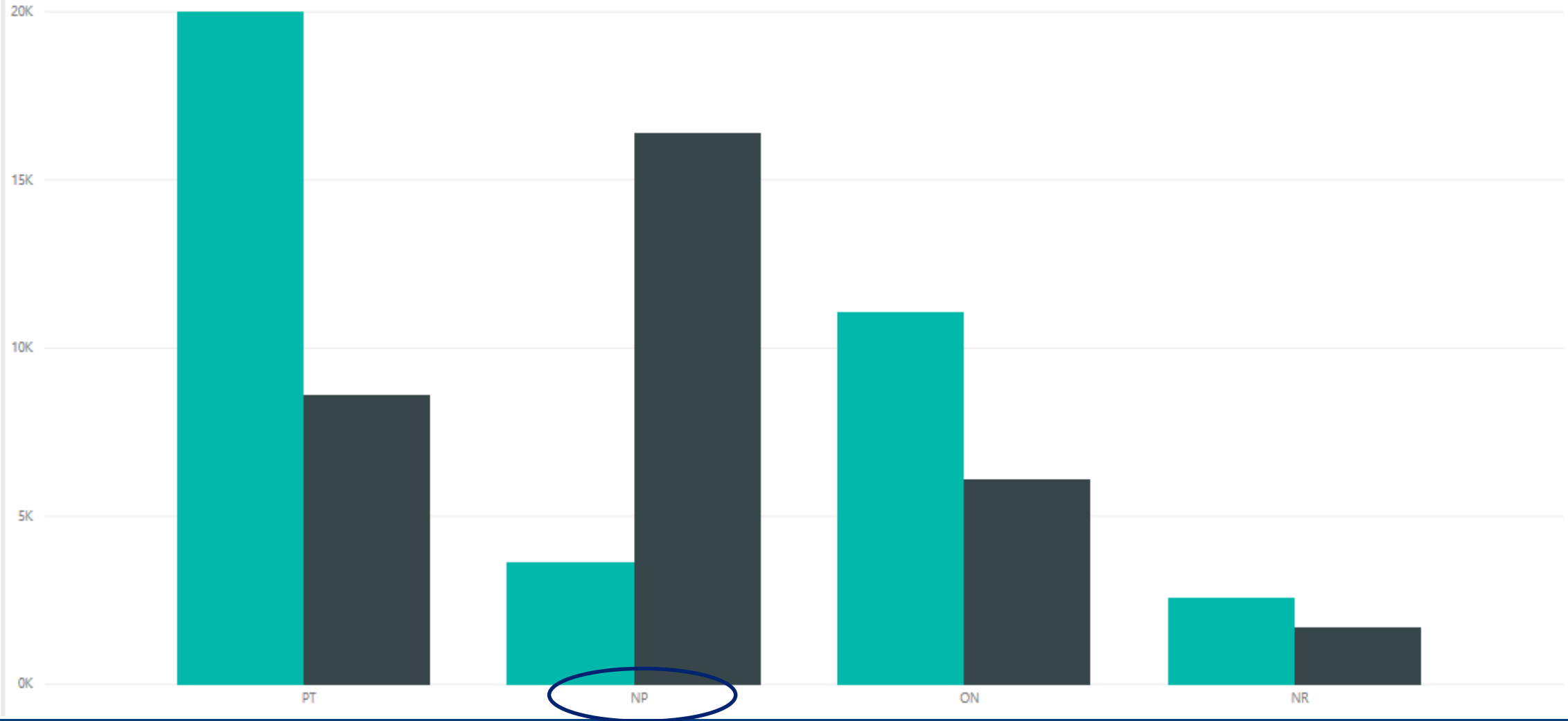
Multiple selections

County

Jefferson

Emissions by Pollutant & Category

Pollutant ● Nitrogen Oxides ● Volatile Organic Compounds



# Criteria Air Pollutants by Sector

Pollutant

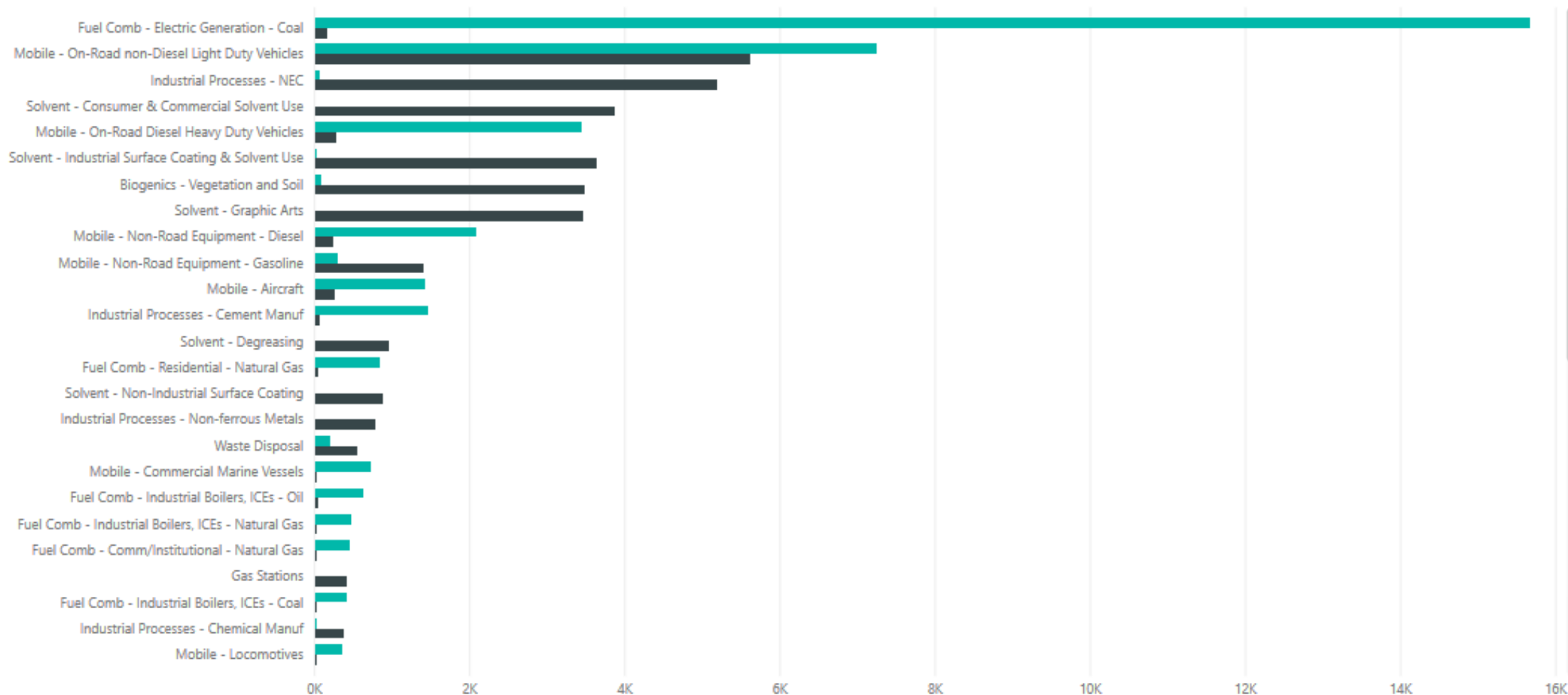
Multiple selections

County

Jefferson

Emissions by Pollutant & Sector

Pollutant ● Nitrogen Oxides ● Volatile Organic Compounds



# Committee Goals

# Area Source Committee Goals

- Evaluate most current emissions inventory to identify and assess sources of ozone precursors from area sources.
- Identify and assess control measures for control of ozone and precursors from area sources that are currently in place or planned.
- Evaluate Ozone Formation Study modeling results to identify additional possible voluntary control strategies from area source sectors for reaching attainment of the 8-hour Ozone NAAQS by 2021 deadline.
- Evaluate possible additional control measures
- Evaluate sufficiency of APCD compliance activities for area source emissions accountability (e.g., inspections, record keeping and reporting).
- Assess recommended strategies for co-benefits to fine particulate and air toxic emission reductions.

Area Source  
Committee

Meetings

# Meeting #1 (12/19/19)

- Review of Previous Stakeholder Group Area Source Centric Committees
- Overview of APCD Permitted and Registered Sources
- Breakdown of Predominant Industry Sectors
  - Dry Cleaning
  - Body Shops
  - Printing/Graphic Arts
  - Woodworking
  - Spray Coating
- Review of Known and Planned Programs and Initiatives
- Discussion of Committee Goals

# Meeting #2 (01/13/20)

- Industry Sectors Deep Dive
  - Body Shops
  - Dry Cleaning
  - Printing/Graphic Arts
- Discussed Materials Used
  - Possible alternatives
- Discussed Geographic Distribution
  - Some industrial clusters





# Meeting #3 (01/27/20)

- Area Sources and Exempt Sources: Emissions and Sectors Overview
- Review of Area Source Emissions Inventory
- Q & A Session with APCD Industrial Compliance Supervisor and Industrial Permit Writers

# Meeting #4 (02/10/20)

## Financing Mechanisms

- [EPAD Program](#)
  - Guest Speaker, Natalie Vezina
- Overview of other financing mechanisms
  - Grants
  - Loans
  - Investments

# Committee Recommendations

- 7 Recommendations
- No Preferential Ordering

## Recommendation #1

APCD should update the emissions inventory for area sources to allow for more comprehensive assessment of sectors that may need higher priority for both regulatory and non-regulatory outreach activities based on their sector-specific emissions. The goal of this project would be to improve the accuracy of the emissions inventory and refine the focus of assistance and outreach activities.

# Recommendation #1, Example

- Identify a statistically significant population of area sources and obtain emission data from them so the results could be extrapolated
  - Salt Lake City did an emission census of printers in the area as part of a collaboration between The Utah Division for Air Quality, the US EPA Region VII, and the Specialty Graphics Imaging Association. The methodology is outlined in the final unpublished report.

## Recommendation #2

APCD should encourage work practice changes/upgrades for equipment, technology, chemicals, and input materials at area sources. APCD's staff should conduct outreach and educational activities to inform various sectors of their options. If these changes have financial constraints, the outreach should include identifying funding opportunities that will facilitate the adoption of new technologies and/or equipment. Research on funding mechanisms should be an ongoing and continuous process.

# Recommendation #2, Examples

- Dry cleaning facilities replacing perchloroethylene machines with machines that use alternative solvents (e.g., DF-2000 or Green Earth) or converting to a wet cleaning process
- Solvent management and best practices
  - Adopt best practices for using parts washers
  - Research options for using alternative solvents with reduced VOC content
- Wipers (towels, rags) management and best practices
- Upgrade to more efficient equipment
  - Digital technology adoption in printing industry
- Some examples of funding mechanisms include:
  - Small Business Loans
  - Pollution Prevention Grants
  - Venture Investments
  - Angel Investments

## Recommendation #3

APCD's Industrial Compliance Section should increase or enhance its compliance assistance, outreach, and inspection activities to all area sources.



## Recommendation #3, Examples

- Modifying inspection intervals so inspections occur on an ongoing basis
  - Each year, 20% of area sources are inspected, resulting in all sources being inspected every 5 years
- Developing up-to-date guidance documents for facilities, such as
  - Fact Sheets
  - Guide Books
- Offering compliance-related classes, seminar, webinars, or other relevant educational opportunities
- Continuing support for the development of the Small Business Environmental Compliance Assistance Program

## Recommendation #4

Louisville Metro Government should encourage energy efficiency projects and investments in the industrial, commercial, and residential sectors through outreach to facilities managers, building owners, and homeowners. When possible, funding opportunities and other financial incentives should be identified.

# Recommendation #4, Financial Incentive Examples

- Low or no interest loans
- Grant funding
- Tax incentives
- Reimbursement opportunities
- Cost-matching opportunities
- Benchmarking opportunities

# Recommendation #4, Examples

- Conducting an energy audit and following through on recommendations
  - i. Kentucky Pollution Prevention Center will perform industrial audits
- Value stream mapping
- Investing in a Smart or Programmable Thermostat
- Upgrading to energy efficient windows
- Insulation projects
- Lighting upgrades
- Compressed air efficiency
- Investing in heat pumps (geothermal, electric) with furnace backup
- Investment in solar technology or other alternative energy

## Recommendation #5

APCD should encourage the development of Ozone Action Plans at industrial facilities and supporting voluntary efforts from commercial and residential sources on Air Quality Alert Days

## Recommendation #5, Examples

- Continue and expand media announcements suggesting no mowing, less driving, and refueling in evening hours
- Request that permitted emergency generators do not conduct testing on Air Quality Alert Days
- When possible, facilities should consider delaying higher emission activities or modifying their hours of operation to periods outside of peak ozone production
- Develop and distribute educational materials during compliance assistance and inspection activities

## Recommendation #6

APCD should promote better practices with industrial usage of solvents and VOC-containing products

## Recommendation #6, Examples

- Coordinate with industrial groups and facilities to encourage adoption of green cleaning policies
- Promotion of facilities and consumers choosing products from the EPA Safer Choice List for non-industrial process cleaning
- Coordinate with industrial facilities to develop a list of best practices for solvent usage (both manufacturing process and non-process general cleaning)
- Consult facilities with existing policies on best practices for examples
- Encourage facilities to seek LEED and other related energy efficiency certifications



## Recommendation #7

Louisville Metro Government and APCD should promote better practices with commercial and consumer usage of solvents and VOC-containing products (e.g., personal care and cleaning products)

## Recommendation #7, Examples

- Coordinate with residential outreach entities (e.g., Department of Public Health and Wellness) to educate the general public on green cleaning methods using safe and effective cleaning and personal care products
- Promotion of consumers choosing products from the [EPA Safer Choice](#) List for commercial and household cleaning
- APCD should expand content related to consumer solvent and VOC-containing personal care products to the “Clearing the Air” workshop series

# Mobile Source Overview & Discussion

- Bradley Coomes, APCD,  
Environmental Coordinator

# Committee Review

- Committee Process & Goals
- Examples of Discussion Topics

# Committee Process & Goals

# Committee Goals

- Evaluate most current emissions inventory to identify and assess sources of ozone precursors from mobile sources.
- Identify and assess control measures for control of ozone and precursors from mobile sources that are currently in place or planned.
- Review best practices from other cities and present case studies on how those cities reduced emissions from mobile sources.
- Evaluate potential localized mobile source exposures in congested or heavily travelled road segments.
- Look for additional strategies to reduce emissions within Louisville Metro Government's own fleet and other large fleets operating locally.
- Assess recommended strategies for co-benefits to fine particulate and air toxic emission reductions.

# Committee Process

- The committee met seven times (seventh meeting was conducted via WebEx)
- Committee consisted of professionals representing KIPDA, Every Commute Counts, LG & E, Mercer Transportation, TARC, Louisville Regional Airport Authority, Frost, Brown, Todd, Sierra Club, Louisville Metro Office of Advance Planning and Sustainability, AECOM, Greater Louisville Inc., the APCD Board, and APCD staff.
- Committee members would let the facilitator know the topics they wanted to discuss and those topics would be researched and presented (often by other APCD staff or other committee members) at the next meeting
- Some of the most discussed topics included:
  - Electric vehicles and electric vehicle charging infrastructure
  - Reformulated gasoline
  - Congestion Mitigation and Air Quality program funding prioritization
  - Idle Reduction
  - Parking Requirements
  - Emissions reductions in public fleets

# Committee Process

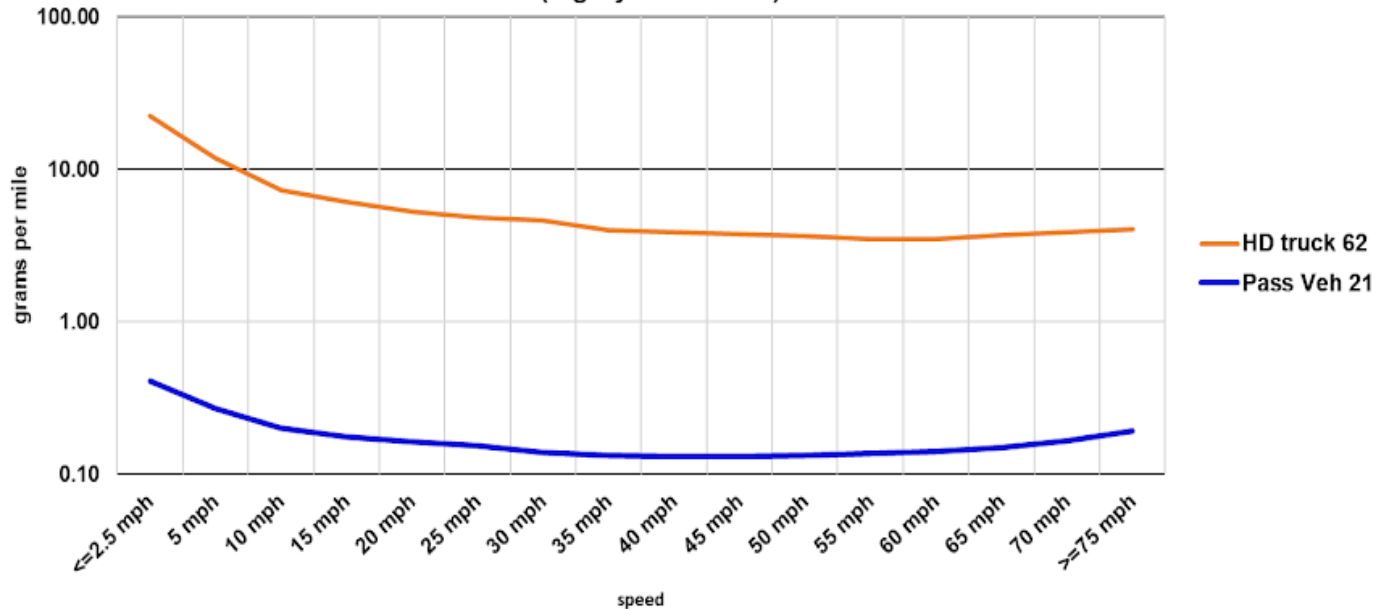
- Later meetings shifted to recommendation formation, sometimes looking to other stakeholder reports for language inspiration
- Facilitator worked on recommendation language and then recommendations were sent out for one last committee review before final report



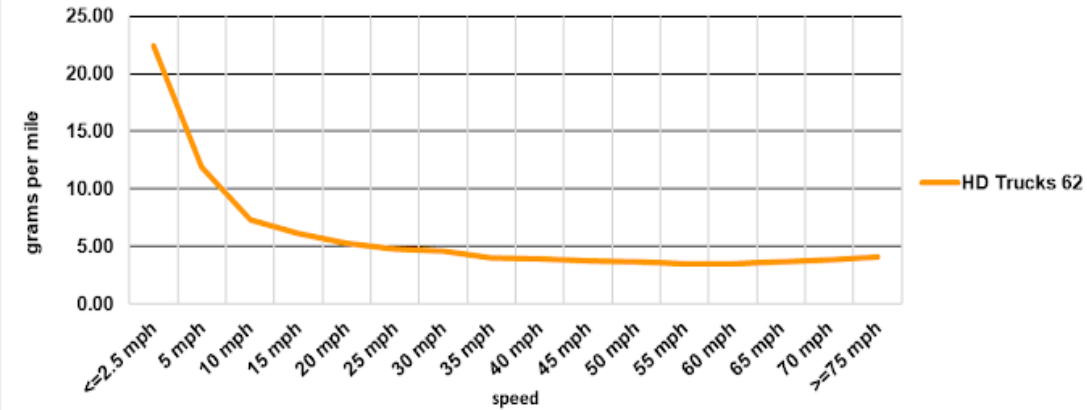
# Discussion Topics

# Jefferson County NOx Emissions by Speed

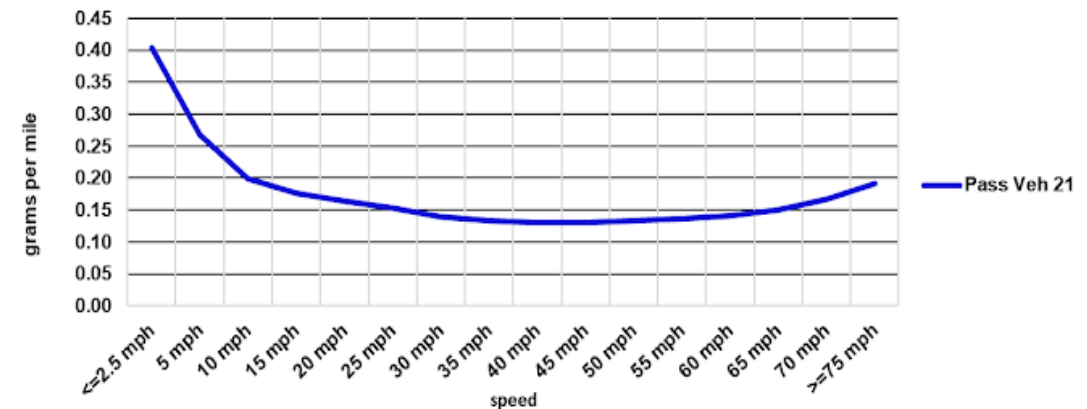
Jefferson County, KY Passenger Cars and HD Trucks 2020 NOx  
(logrhythmic scale)



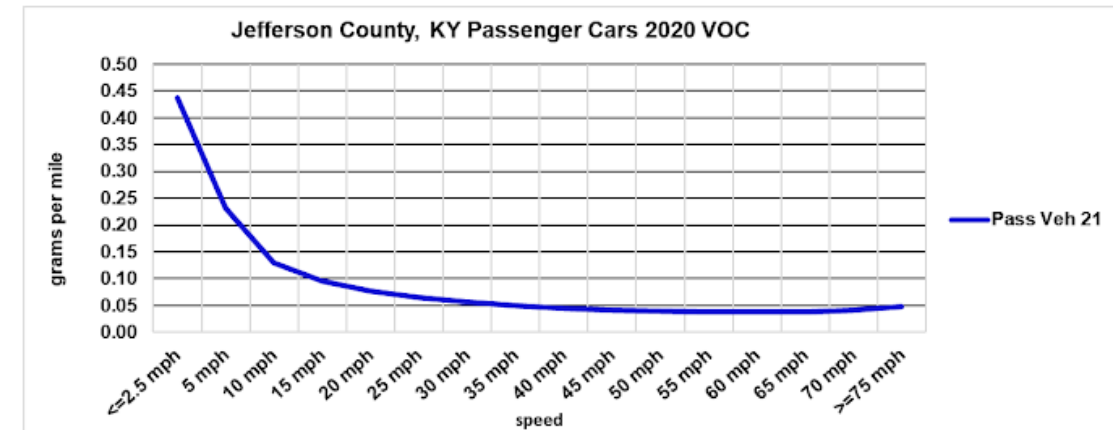
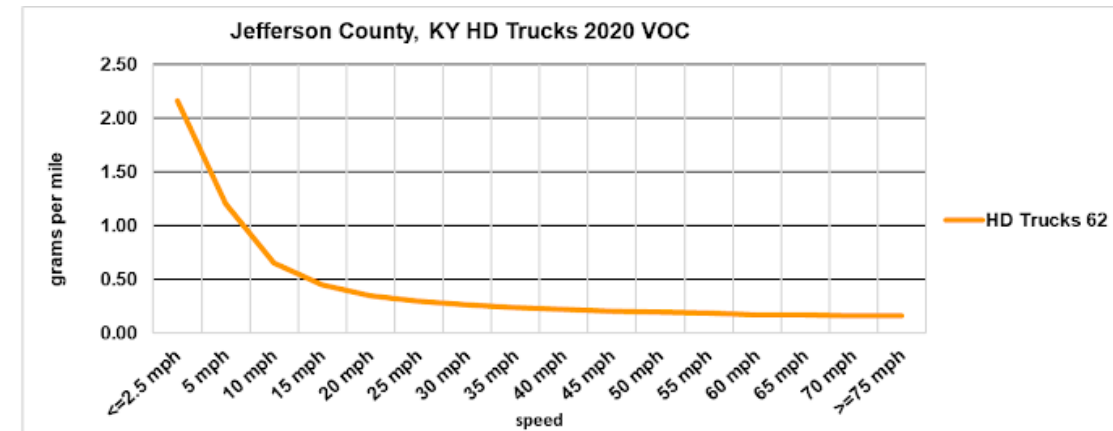
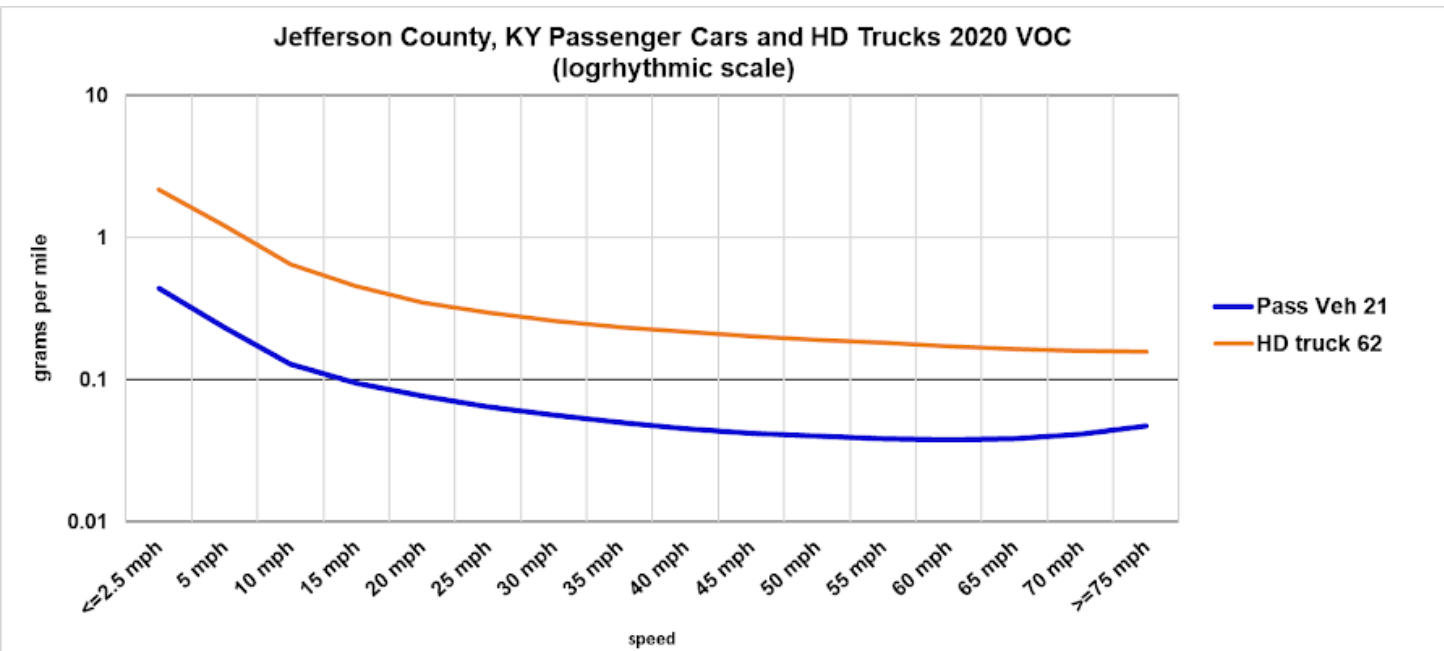
Jefferson County, KY HD Trucks 2020 NOx



Jefferson County, KY Passenger Cars 2020 NOx



# Jefferson County VOC Emissions by Speed

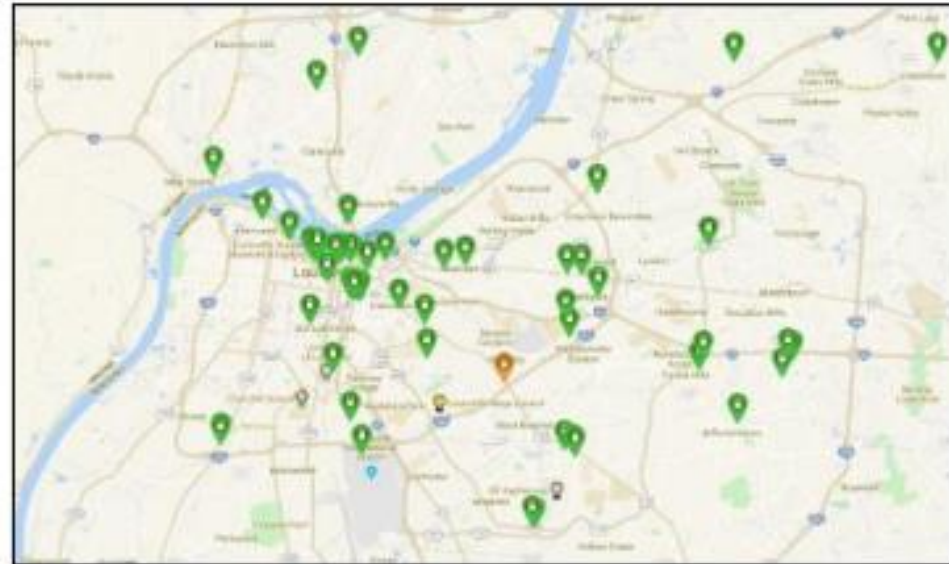


# Electric Vehicle Discussion

## Louisville Metro Government Electric Vehicle Survey

### Top Three Barriers to EV Ownership

- The price of electric vehicles
  - Most respondents would consider purchasing an EV in the \$16,000 - \$20,000 range. Most new models cost more than \$20,000.
- The lack of charging stations
  - Respondents agreed that more charging stations are needed to promote full EV adoption
  - Charging locations were recommended (some examples: Shelbyville Rd Plaza, JCC, Metro Hall, GE Plant, Oxmoor, local parks)
- Driving range
  - KY has more than 50 charging stations in this region, but not enough to prevent range anxiety



Source: EV Charger Map. Retrieved from <http://evolveky.org/ev-charger-map/>

# Electric Vehicle Discussion

## Moving Forward

- Estimates show that by 2025, the U.S. will have 11.4 million EVs on the road. Louisville should plan for the influx of EVs by:
  - Creating incentives that offset cost and promote EV adoption
  - Develop materials/outreach to educate public about EV ownership
  - Expand the city's charging network

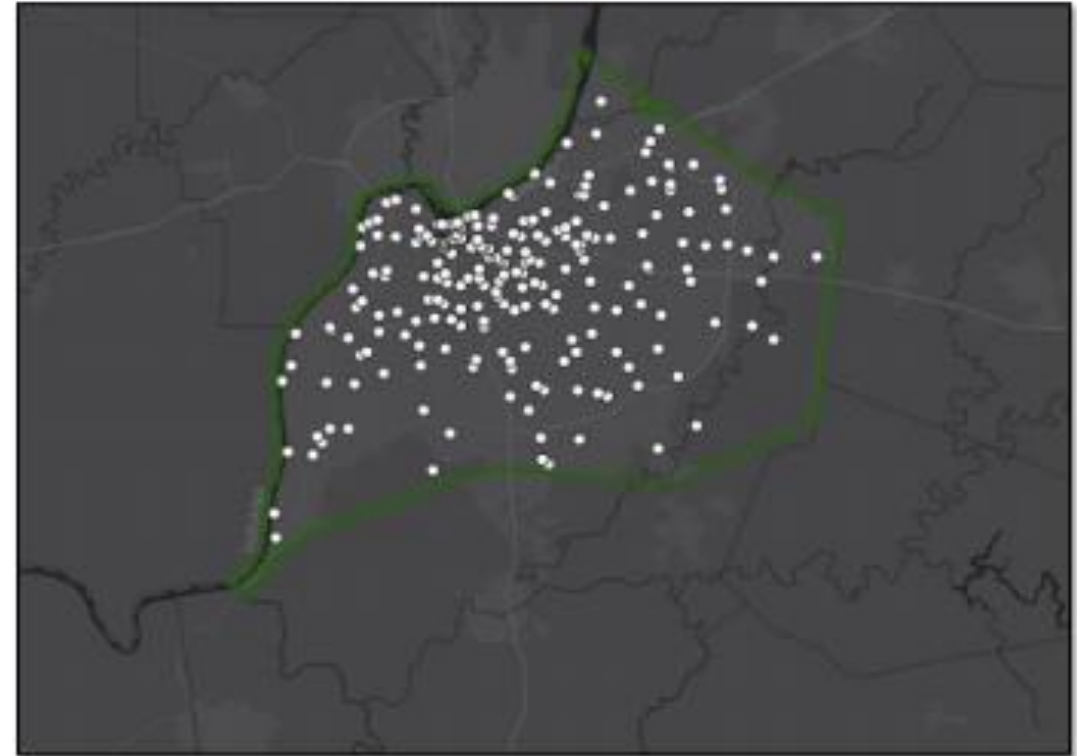


Image of suggested EV charging locations from EV Survey crowdsourcing application

# Committee Recommendations

- 12 Recommendations
- No Preferential Ordering

# Recommendation 1

## Expand Electric Vehicle (EV) adoption and expand EV infrastructure.

\*While the recommendations below focus on the increase in use of electric vehicles (including plug-in hybrids), the committee recognized the emissions benefits of encouraging the use of conventional hybrid and other low/no emission vehicles as well.

- A. Louisville Metro Government should implement a strategy to expand electric vehicle and bicycle charging networks in publicly accessible locations. They should also partner with developers, building owners and managers, and parking managers to add new charging stations. This will increase market confidence by signaling a clear direction towards investment in EVs in Metro Government. Benchmarks should be set by which progress can be measured.
- B. Louisville Metro Government should enable and encourage utilities to leverage their expertise and relationships to customers to jumpstart the EV market in a way that maximizes benefits to ratepayers and society.
- C. Louisville Metro Government should support higher levels of EV market share by helping consumers and fleets afford the incremental cost of EVs by raising awareness of available tax credits, rebates, grants and other sources
- D. Louisville Metro Government should increase consumer awareness of EV technology, costs, performance, and available incentives.

# Recommendation 1 (cont'd)

## Electric Vehicles/EV Infrastructure Continued

- E. Louisville Metro Government should engage, educate, and encourage car dealers to raise consumer awareness and EV sales.
- F. All governmental and public entities should increase fleet EV adoption levels to increase environmental benefits from vehicles with high vehicle miles traveled (VMT) rates; increase consumer awareness by electrifying fleets that are consumer-facing such as carshare, car rental, or shared mobility company fleets.
- G. Louisville Metro Government should support existing programs that reduce costs for ratepayers, reduce charging costs for EV owners that charge during off-peak times, and remove barriers to DC Fast Charging (DCFC) deployment.
- H. Louisville Metro Government should increase EV infrastructure investment and availability at workplaces and multi-family residences, through an education and outreach program to developers, employees and residents.
- I. Louisville Metro Government should review the Land Development Code for further opportunities to incentivize the installation of EV infrastructure.



# Recommendation 2

**Keep reformulated gasoline (RFG) use in the ozone nonattainment area if analysis shows continued emissions reduction benefits. Reanalyze these benefits after the area comes into attainment of the ozone standard.**

Recognizing the actions of the Kentucky General Assembly and the Louisville Metro Council calling for an analysis of the air quality benefits of RFG over conventional gas, APCD should analyze the emissions reductions RFG provides in the ozone nonattainment area. Those benefits should be maintained until the area is redesignated by EPA as Attainment of the 2015 8-hour ozone National Ambient Air Quality Standards (NAAQS). At such time, and if equivalent emission reduction strategies are available, APCD should work with the Kentucky Division for Air Quality to request that the requirement for RFG sale in the region be removed from the State Implementation Plan (SIP). This will require a demonstration that the increase in emissions that may result from the widespread use of conventional gasoline in the current nonattainment area will not interfere with or prevent the area from maintaining attainment of the NAAQS. Increases in emissions from the removal of RFG will have to be offset with new quantifiable, permanent, and enforceable VOC and NO<sub>x</sub> reductions sufficient to maintain compliance with the NAAQS.

# Recommendation 3

**Funding for mobile source emissions reductions should be prioritized for areas that are designated nonattainment of the NAAQS.**

- A. Louisville Metro Government should advocate that federal transportation funds allocated through the state and intended to improve air quality, such as Congestion Mitigation and Air Quality program (CMAQ) funds, be spent primarily in areas with a current nonattainment status.
- B. Louisville Metro Government should encourage the Kentucky Division of Air Quality to petition the Environmental Protection Agency (EPA) to redesignate 1979 ozone maintenance areas to attainment.
- C. Louisville Metro Government should encourage local lawmakers to introduce resolutions to prioritize funding sources such as CMAQ funds for nonattainment areas.

## Recommendation 4

Louisville Metro Government and other community partners should voice support for releasing the use of VW Settlement Funds as soon as possible in Jefferson County, including funding to support Transit Authority of River City (TARC) bus replacements with newer, cleaner engines.

# Recommendation 5

**Louisville Metro Government should evaluate parking requirements for revisions that would encourage mobile source emission reductions strategies.**

A. Louisville Metro Government should investigate strategic parking supply restrictions and congestion pricing for single-occupancy vehicles

## Recommendation 5 (cont'd)

B. Louisville Metro Government should consider the following changes to existing parking regulations with the Land Development Code, particularly regarding reductions in minimum parking requirements:

i. Eliminate all minimum parking requirements for all form districts and land uses, complemented by reduced parking maximums that can be classified by form district and land use in order to reduce the use of single occupancy vehicles.

ii. Increase the reduction for proximity to transit (currently a 10% reduction). This could manifest in various ways, including:

iii. Flat increase to 20%

1. Increase to 30% within certain distance of a permanent transit shelter

2. Numerical or percentage reduction if applicant builds/pays for a new transit shelter

iv. Create a reduction for carpool/vanpool spaces

1. Example: Reduce minimum parking requirement by 2 spaces for every carpool/vanpool space (carpool/vanpool space counts for 1 required space).

v. Create a reduction for EV charging spaces

1. Example: Reduce minimum parking requirement by 2 spaces for every EV charging space (EV charging space counts for 1 required space).

# Recommendation 6

## Park and Ride/Rideshare Incentives

- A. Louisville Metro Government should support opportunities for ridesharing and short-term vehicle use.
- B. Louisville Metro Government should incentivize new and support existing park and ride lots/car sharing options/other rideshare infrastructure (bike lockers, support services, etc.) through the Land Development Code.

## Recommendation 7

Louisville Metro Government should improve and expand traffic signal synchronization throughout Louisville Metro to reduce average commute time and idling, prioritizing highly congested areas.

# Recommendation 8

## Seek out emissions reductions in public fleets (e.g., Louisville Metro Government, Jefferson County Public Schools)

- A. Louisville Metro Government should analyze the Metro fleet and create a plan to improve fleet emissions through diesel retrofit or replacement along with the use of alternative fuels, hybrids, and electric vehicles.
- B. The Air Pollution Control District (APCD) should work with public and private fleet owners operating in Louisville Metro through education, incentives, and grants to aggressively retrofit or replace both onroad and nonroad fleets with state-of-the-art technology.
- C. All government and public entities should adopt a high-efficiency vehicle purchasing policy.
- D. All government and public entities should prioritize and actively pursue funds for replacement vehicles using funding sources such as the Diesel Emissions Reductions Act (DERA).



# Recommendation 9

## Encourage idle reduction strategies in public and private fleets.

- A. APCD should work with entities, such as schools, to reduce unnecessary engine idling.
- B. Louisville Metro Government should encourage significant coordination among the Kentucky Transportation Cabinet (KYTC), Indiana Department of Transportation (INDOT), local transportation officials, and private fleets during major highway repair or construction to develop plans to minimize traffic backups and delays to reduce idling and toxic emissions.
- C. APCD should reinforce the message that it is important to minimize the idling of all mobile source internal combustion engines, including, but not limited to, those fueled by gasoline, diesel, biodiesel blends, vegetable oil, propane and compressed natural gas.
- D. All Jefferson County public entities should implement practices and policies to reduce unnecessary idling and acquaint their employees and the public with said practices and policies.
- E. Public and private partners should be sought for overnight parking for long haul trucks that include plug in options so that trucks can power their vital systems without the need to idle their engines.

# Recommendations 10-12

(Recommendations Referred to the Mobile Source Committee from other MPSG Committees)

10. Louisville Metro Government should review the research on the comparative benefits of traffic control measures and transit/multimodal strategies on air quality impacts from traffic.
11. APCD should collaborate with the Kentuckiana Regional Planning and Development Agency (KIPDA) to use available data (e.g. Streetlight) to study the impacts of traffic on air quality.
12. Louisville Metro Government should commission a study to identify high-potential areas for the construction of new or the expansion of existing, dedicated pedestrian or cyclist pathways.

# Committee Recommendation Sources

- [AQTF-PM – Louisville’s Fine Particulate Air Quality Task Force](#)
- [IRWG – Louisville’s Idling Reduction Working Group](#)
- [Draft GHG ERP – Louisville’s Draft Greenhouse Gas Emissions Reduction Plan](#)
- [PGC CAR – Partnership for a Green City Climate Action Report](#)
- MPSG Mobile Source Committee
- MPSG Health Committee
- [Seattle Office of Sustainability – Removing Barriers to EV Adoption by Increasing Access to Charging Infrastructure](#)
- [Pennsylvania Electric Vehicle Roadmap](#)
- [APCD - The Facts About Reformulated Gas](#)

# Recommendation Feedback Tool

- Michelle King, APCD,  
Director of Program Planning

# Recommendation Feedback

- Fillable form via email
- Identify Priority Recommendations from each subject area
- Provide feedback on and ideas for implementation and potential partnerships
- Two rounds of feedback
  - Point, Area, and Mobile Source Committees
  - Outreach & Education and Health Committees
- Results in MPSG Final Report

**Multipollutant Stakeholder Group**  
Recommendation Feedback Survey  
Point Source, Area Source, and Mobile Source Committees  
Please complete and submit by April 10, 2020

**AIR POLLUTION CONTROL DISTRICT**

*For each of the committees below, please indicate the requested number of priority recommendations. This is will provide some guidance to APCD for which to pursue implementation and seek resources first. This does not mean that other recommendations will not be implemented or pursued in the near term, but does add weight to those that Stakeholders feel rise to the top of the list.*

*Recommendation language is in bold, where examples or additional explanation accompanies the recommendation, that is in plain text. Instructions are in italics. Additionally, there are open text fields following each of the recommendations. Please use these to provide additional feedback, implementation ideas, or potential partners for APCD's consideration.*

*Thank you for your time and feedback!*

**Point Source Committee Recommendations – Please choose five priority recommendations**

☐ 1. The District should keep and help maintain the Stakeholder-sourced spreadsheet of known and planned reductions in the domain of the Ozone Formation Study.

☐ 2. The District should start a program to recognize companies for voluntary efforts to reduce ozone precursor and other emissions. Recognition should be given through certificates or badges for different levels or tiers of reductions, awarded before the Louisville Metro Air Pollution Control Board.

☐ 3. The District should encourage participation by sources in voluntary programs such as KY EXCEL, Kentucky Pollution Prevention Center, and the Louisville Metro Energy Project Assessment District (EPAD) program, including through the recognition program in recommendation 2.

☐ 4. The District should encourage action by Point Sources on Air Quality Alert Days. (These recommendations should be considered as a whole.)

# Meeting Wrap-Up

- MPSG Co-Chairs

# Thank you!



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